

WIRING STRUCTURE FOR INTEGRATED CIRCUIT WITH REDUCED INTRALEVEL CAPACITANCE

Abstract

A method of forming a wiring structure for an integrated circuit includes the steps of forming a plurality of features in a layer of dielectric material, and forming spacers on sidewalls of the features. Conductors are then formed in the features, being separated from the sidewalls by the spacers. The spacers are then removed, forming air gaps at the sidewalls so that the conductors are separated from the sidewalls by the air gaps. Dielectric layers above and below the conductors may be low- k dielectrics having a dielectric constant less than that of the dielectric between the conductors. A cross-section of each of the conductors has a bottom in contact with the a low- k dielectric layer, a top in contact with another low- k dielectric, and sides in contact only with the air gaps. The air gaps serve to reduce the intralevel capacitance.